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NEBRASKA UNIV LINCOLN DIV OF ARCHEOLOGICAL RESEARCH
CULTURAL RESOURCES RECONNAISSANCE FOR THREE MISSOURI RIVER BANK--ETC(U)
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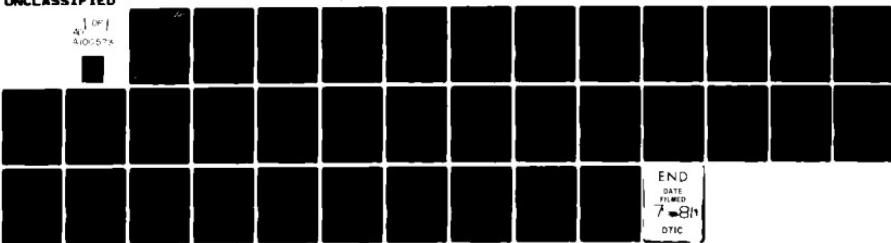
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CULTURAL RESOURCES RECONNAISSANCE FOR THREE MISSOURI
RIVER BANK STABILIZATION PROJECTS IN
SOUTH DAKOTA AND NEBRASKA:

Sunshine Bottom, Goat Island, Ionia Bend

by

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Carl R. Falk

Department of Anthropology
Division of Archeological Research,
University of Nebraska
Lincoln, Nebraska

May 1978

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Prepared in partial fulfillment of the requirements of
Purchase Order No. DACW45-78-M-1940 dated March 20, 1978
between the Corps of Engineers, Omaha District and the
Board of Regents of the University of Nebraska.

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ABSTRACT

An evaluation of archeological site files, historic documents and other information relevant to the identification and evaluation of cultural resources within three proposed Missouri River Bank Stabilization Projects (Sunshine Bottom, Goat Island and Ionia Bend) has been carried out under an agreement between the U.S. Army Corps of Engineers (Omaha District) and the University of Nebraska (Division of Archeological Research). In addition an intensive survey of each of the proposed project areas has been completed. The results of the full investigation suggest that no significant cultural resources will be affected by planned bank stabilization work within the three respective areas. Further field investigations are not recommended.

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INTRODUCTION

On March 20, 1978 the Omaha District, U.S. Army Corps of Engineers completed a formal arrangement with the University of Nebraska (Division of Archeological Research) to permit a cultural resource reconnaissance of three proposed Missouri River Bank Stabilization Projects. The actual investigations were implemented under Purchase Order No. DACW 45-78-m-1940 dated March 20, 1978. The overall investigation was under the immediate supervision of Carl R. Falk; Ms. Carole Angus was responsible for development of relevant background information and directed the field survey. Angus and Falk are jointly responsible for preparation of the final report which documents all work carried out under the original agreement.

Study Definition

The present study focuses on an identification and evaluation of cultural resources located within three defined bank stabilization areas along the Missouri River in north-eastern Nebraska and southeastern South Dakota. As detailed by the Scope-Of-Work under which this study was implemented, work to be performed includes: 1) an exhaustive literature and records search, 2) an on-the-ground examination of project areas, and 3) preparation of a detailed project report.

The term cultural resources is defined in a manner consistent with current usage and includes all archeological, historical and historic-architectural remains.

Area Definition

Following specifications provided by the U.S. Army Corps of Engineers (correspondence dated 22 December 1977; Ref: MROSD-P, Plng-73-10 and 6 April 1978) three (3) survey units may be defined (see Figure 1):

1. Sunshine Bottom. This area lies along the right (south) bank of the Missouri River in Boyd County, Nebraska. The project area is approximately 3.7 miles in length and 300 feet in width (approx. 135 acres).
2. Goat Island. This proposed project area lies on the left (north) bank of the Missouri River in Yankton County, South Dakota. The project area is 3.2 miles in length and 300 feet in width (approx. 117 acres).
3. Ionia Bend. Ionia Bend lies along the right (south) bank of the Missouri River in Dixon County, Nebraska. The project unit 3.75 miles in length and 300 feet in width (approx. 137 acres).

Maps included with the above cited correspondence provided adequate guidance with respect to project boundaries.

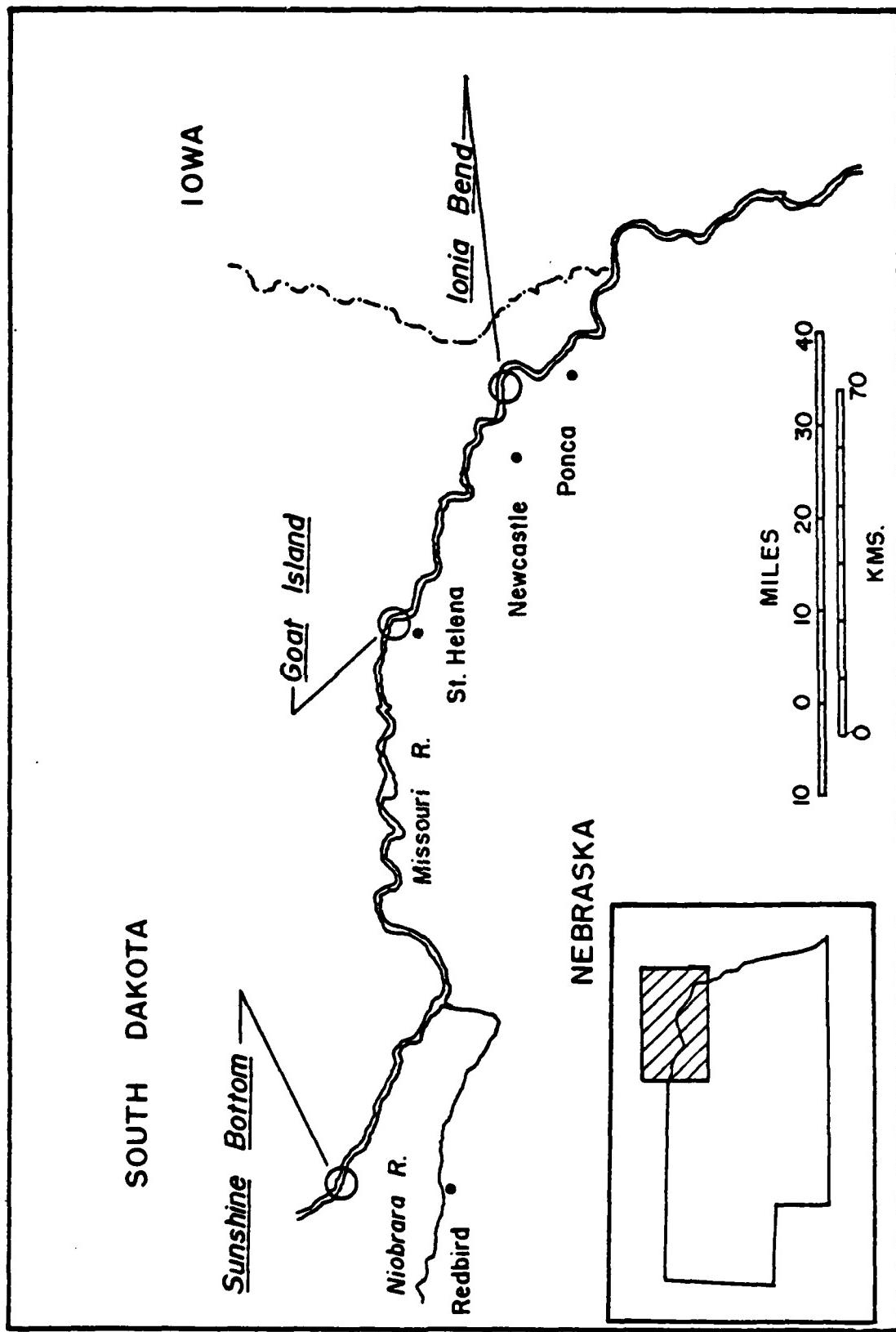


Figure 1. Missouri River in Northeastern Nebraska showing general location of Sunshine Bottom, Goat Island and Ionia Bend Survey Units.

Procedures

Given the objectives outlined above, the following steps were initiated:

1. Records Search. Archeological survey records for the areas under consideration were examined. Resources utilized included the Nebraska State Historical Society, and The University of Nebraska (Department of Anthropology). In addition coordination was affected with State Archeologist for South Dakota and the South Dakota State Historic Preservation Office (see Appendix A for relevant correspondence).

2. Literature Search. Relevant background information was compiled from published and unpublished sources available through the University of Nebraska, the National Park Service's Midwest Archeological Center and the Nebraska State Historical Society.

3. National Register Consultation. The most recent and full publication of the National Register of Historic Places (together with more recent additions, corrections, etc.) was reviewed with respect to National Register Properties which might lie within or adjacent to the study areas.

4. Field Survey. Following collection of relevant background information, an intensive survey of all lands within the study areas was undertaken.

5. Preparation of Final Report. All information gathered during work phases outlined above was incorporated in the present report. The progress of field investigations, preliminary findings and evaluations, and recommendations were discussed with and made available to the Contracting Officer's representative prior to the final submission of this report.

BACKGROUND

Results of Previous Investigation

SUNSHINE BOTTOM

The first professional archeological excavations in the area adjacent to Sunshine Bottom took place at the Lynch site (25BD1) located about one mile west of Lynch, Nebraska. This site was excavated by the University of Nebraska in 1936 and 1959. The distinctive pottery type and circular earthlodges from this site clearly represent the prehistoric Plains Village period, with an estimated date of occupation in the 15th and 16th centuries.

The next recorded archeological investigation in this area of Boyd County was a survey of historic and prehistoric cultural resources for the Nebraska Public Power District's proposed pumped power project. The survey was conducted in 1974 by the University of Nebraska, Department of Anthropology under the direction of Dale R. Henning. No archeological sites were located in Sunshine Bottom during this survey. However, a total of fourteen prehistoric sites were found in the uplands and within two miles of Sunshine Bottom Unit. These sites include four Archaic, one Woodland, and two Plains Village Period occupations, and six sites of unknown cultural affiliation (Teter 1975a:42-95).

A single Woodland site (25BD124) was the only one recommended for further testing. During 1974 and 1975 twelve test units were excavated; the results of these investigations suggest occupation by peoples of the late Middle to Late Woodland time period. The site was probably used as a seasonal processing station for large game animals (Teter 1975b:150).

Research in conjunction with the 1974 project encountered two possible historic sites within the project area. These are Stewart's Ferry and Anderson's Landing. Stewart's Ferry was a station for a small ferry running across the river at the turn of the century. No structures remain in evidence (O'Shea 1975:37). Anderson's Landing was a riverboat landing which operated from the early 1890's to 1908. The introduction of the railroads rendered the landing obsolete. No structures remain at the site which was greatly altered for purposes of building a boat ramp (O'Shea 1975:37).

Also located in Sunshine Bottom, but outside the project area, are the Hiram Stewart House and Barn which were constructed in 1905 of a yellow sandy shale. The foundations were reported to be in good condition (O'Shea 1975:32). Fifteen other historic structures and grave sites representing early turn-of-the-century settlers were located within two miles of Sunshine Bottom (O'Shea 1975 and Holen 1975). Eight of these sites as well as Stewart's Ferry, Anderson's Landing

and the Hiram Stewart House will be inundated by the construction of the planned pumped power project (O'Shea 1975:39-41).

In 1977 Mr. Dave Murphy of the Nebraska State Historical Society conducted a survey of historic-architectural sites in the Sunshine Bottom, also for the Nebraska Public Power District. Murphy verified the existence of most of the historic structures located in 1974 and recorded several additional ones. He also failed to find any historic sites in the present project area, however. Murphy has noted that most of the early historic structures located in Sunshine Bottom represent settlement by German-Russian immigrants in the late 1890's and early 1900's following the removal of the Sioux and Ponca Indians in 1890. These early adobe brick buildings are significant in that they follow the semelanka architectural plan, a unique Central European room arrangement consisting of a one story tripartate structure with an upper loft and gabled roof (Murphy 1977).

GOAT ISLAND

Correspondence from the South Dakota State Archeologist's Office, the South Dakota Historic Preservation Center and the Archeological Laboratory at the University of South Dakota relates that no prehistoric or early historic sites have been reported from the Goat Island project area and that no previous surveys have been made. A mid-1890's map provided by

the Historic Preservation Center (Appendix A) indicates that in the past much of the project area was in the river or covered by sandbars. Consequently, the absence of sites is not surprising.

However, the Yankton Mounds burial site (39YK1) located near Yankton, South Dakota and excavated in 1919 by W.H. Over, indicates the presence of a Plains Woodland Tradition in the general area (Sigstad and Sigstad 1973:316-317).

IONIA BEND

No prehistoric sites are recorded in the Ionia Bend project area and very little archeological work has taken place in the immediate vicinity.

The Enders site (25DX4) is located on the bluffs about one and three-quarter miles from the Missouri River and overlooking the project area. This is an ossuary site containing sixteen Nebraska "Culture" burials excavated in 1938 by Stanley J. Bartos, Jr. of the University of Nebraska, Department of Anthropology (Site files, University of Nebraska, Department of Anthropology).

Site 25DX8 is situated on secondary Missouri River bluffs about one mile southeast of the Enders site. This site was also recorded in 1938 by Bartos. A surface collection produced pottery and projectile points, indicating a Nebraska "Culture" village site. No excavations were undertaken.

Site 25DX16 is located on the river bluffs about two miles upstream from the Ionia Bend project area. This is a large village site with a considerable number of earthlodge depressions. The landowner's private collection includes pottery attributed to the St. Helena "Culture" (Site files, Nebraska State Historical Society).

National Register Properties

Based on our review of the most recent full publication of the National Register of Historic Places (Federal Register, February 7, 1978; Part II, Vol. 43, No. 26, pp 5246-5247, 5305) no known National Register properties are located within or adjacent to the defined study units. Review of pending nominations, additions, deletions and corrections published in the Federal Register through May 30, 1978 yielded no National Register properties within the three defined units.

Summary of Known Cultural Resources

Our background research failed to locate evidence of known archeological sites (historic or prehistoric) within the three defined study units. No prehistoric sites have been recorded in the Sunshine Bottom project area. Previous archeological investigations in and around Sunshine Bottom indicate prehistoric occupations representing the Archaic,

Woodland and Middle Missouri cultural traditions.

The Sunshine Bottom area adjacent to the bluffs was settled in the 1890's and early 1900's by German-Russian immigrants. Some of the house structures erected by these early settlers represent a unique architectural type. However, none of these buildings are located within the study area.

Historic sites located in this project area include a ferry landing and a riverboat landing operated at the turn of the century but no evidence of structures or cultural material remains have been previously recorded at these locations.

None of the appropriate offices contacted in South Dakota could verify the occurrence of any archeological sites in the Goat Island Area. An early map of the area indicates that much of the study unit may have been in the river.

The Ionia Bend study area also contains no recorded prehistoric or historic sites. However, previous investigations by the University of Nebraska and Nebraska State Historical Society have demonstrated the presence of two Plains Village Period sites in the general area.

Finally, consultation with the most recent full publication of the National Register of Historic Places, published up-dates, and consultation with appropriate State Historic Preservation Offices in both Nebraska and South Dakota revealed that no National Register Properties are presently identified within, or in the immediate environs of, the study areas.

ARCHEOLOGICAL SURVEY INVESTIGATION: 1978

During the period April 21 to April 23, 1978 a field crew under the direction of Ms. Carole Angus conducted an intensive survey of the three defined study areas. Angus was assisted in the field by Victor King and Steve Holen, both University students. Holen presently lives in the Boyd County area and has had extensive archeological survey experience throughout Nebraska. Field notes, photographs and related records were organized by Angus and have been filed with the Department of Anthropology, University of Nebraska.

Field Procedures

The actual investigation was carried out by a single survey team composed of three individuals; all lands within the designated survey areas were systematically covered on foot. Spacing between team members varied in relation to terrain and ground cover; in all cases spacing was consistent with maximum visibility. In those instances where it was deemed necessary, the survey was extended beyond actual unit boundaries. In those areas where heavy vegetation obscured surface visibility attention was focused on areas of natural erosion, animal burrowing and human disturbance.

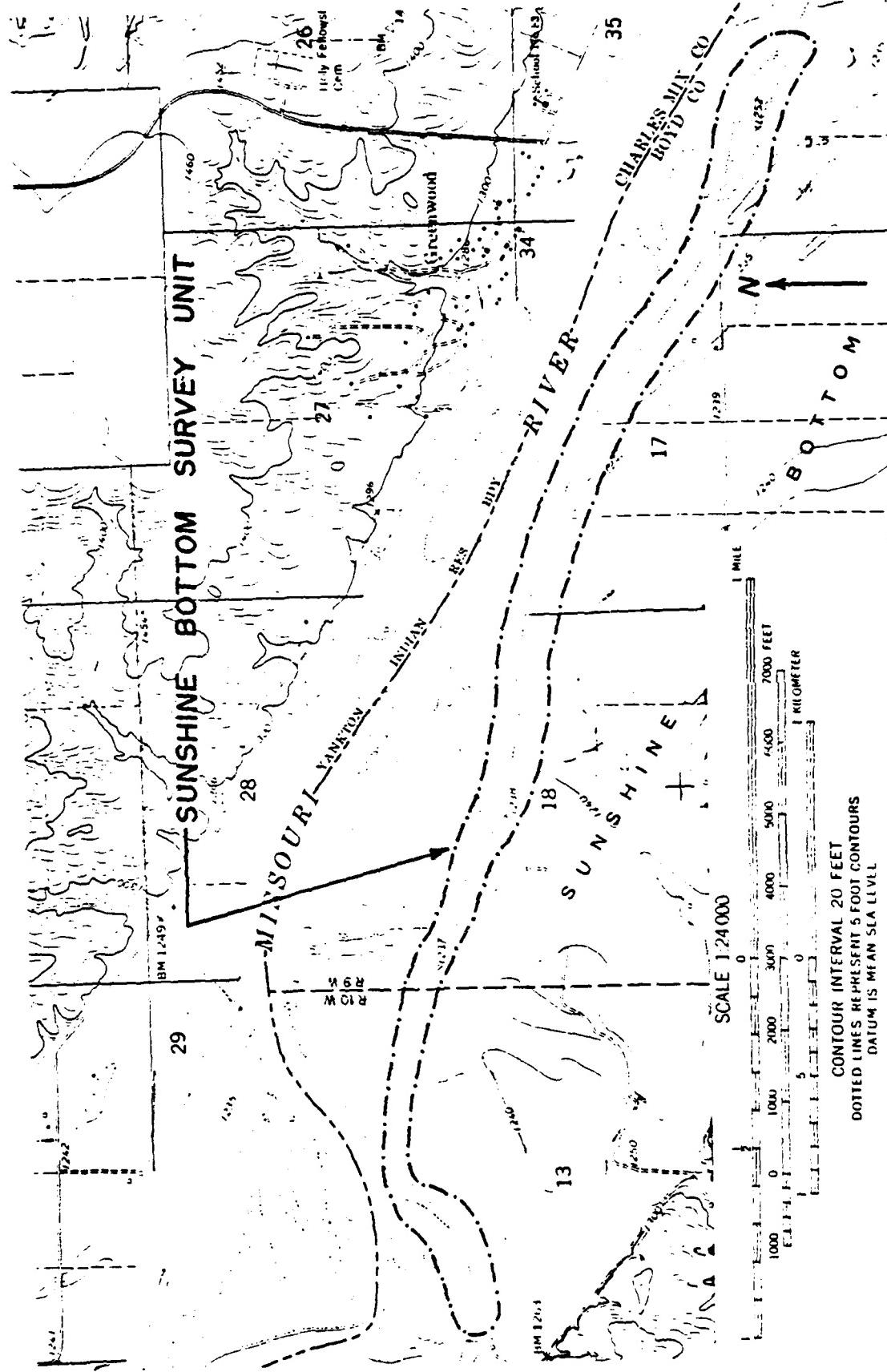
Results of the Field Investigation

SUNSHINE BOTTOM

Field survey of the Sunshine Bottom area was carried out on April 21. With the exception of exposed beach and shore areas, and a section of cultivated land in the western portion of the survey unit, surface vegetation was heavy and visibility poor throughout the survey unit. Particular attention was paid to the Anderson's Landing area (located just east of the Section 17-18 boundary; see Figure 2). The area, a stopping point for riverboat traffic during the late 19th and early 20th centuries, is presently used as a boat dock. Buildings associated with this early historic use were reportedly washed away in a flood, though specific documentation is lacking (O'Shea 1975:38). A large number of rocks litter the area today, apparently brought in during construction of the cement slab boat dock.

A thin scattering of recent debris (including glass, ceramics, plastic bottle caps, "tin" cans, etc) was noted throughout the eastern half of the survey unit; portions of the area appear to have been used as dumps. Recent bovid elements were found scattered along the beach and several complete carcasses were located in heavily wooded areas.

A small clearing in the trees, and adjacent to the river, marks the location of one end of Stewart's Ferry. The ferry



service operated in the late 19th and early 20th centuries between Nebraska and the Greenwood landing on the South Dakota side of the river. No evidence of structural remains or other cultural materials were located in this area.

Survey of the western half of the unit also failed to yield significant cultural remains. An abandoned shack was noted just to the west of the unit boundary; this structure was covered with tar paper and appears to be recent.

In sum, no significant cultural remains were located within the Sunshine Bottom survey unit. Field investigations did reveal scattered recent debris, some evidence of recent dumping, and a concrete boat dock.

GOAT ISLAND

The Goat Island area was surveyed on April 22; field methods were consistent with those employed on Sunshine Bottom. Approximately 70% of the nearly four-mile-long unit was heavily wooded; ground visibility was poor. Much of the area showed clear evidence of recent flooding. Despite careful and intensive examination, no cultural remains were located within the wooded area.

The remaining 30% of the Goat Island area (located along the northwestern extension of the unit) was in pasture; a junkyard was located adjacent to Gaging Station No. 3 (see Figure 3). Visibility was again poor. Some recent cultural

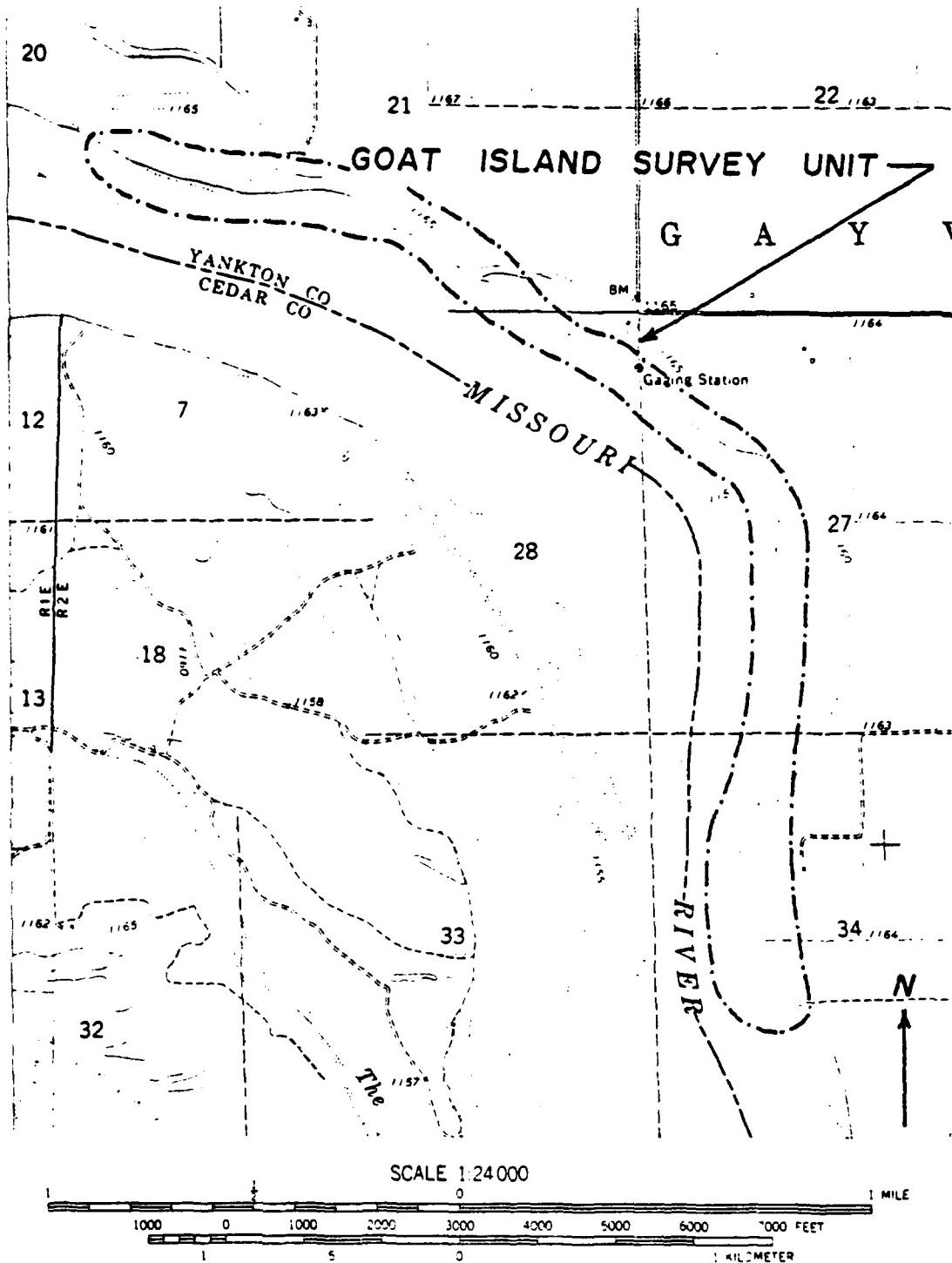


Figure 3. Goat Island Survey Unit, Yankton County, South Dakota; all lands within indicated unit boundary surveyed. (Adapted from U.S.G.S. 7.5 min. topographic map; St. Helena Quadrangle, Nebraska)

debris was noted in association with a large mound of brick and miscellaneous building refuse brought in by a local land-owner to help retard bank erosion. No further cultural material was located.

IONIA BEND

The Ionia Bend area was surveyed on April 23. The unit was approximately 80% pasture and 20% mixed woodland and grazed woodland. Ground cover was heavy and visibility poor. In addition, a steep bank and active cutting by the river made shoreline survey difficult. The area is, at present, a popular fishing and hunting locale.

Other than scattered recent debris, no cultural materials were located. An in-use wooden frame structure is in the east-central portion of Section 16 (Figure 4). Finally a graveled boat landing was recorded in Section 35.

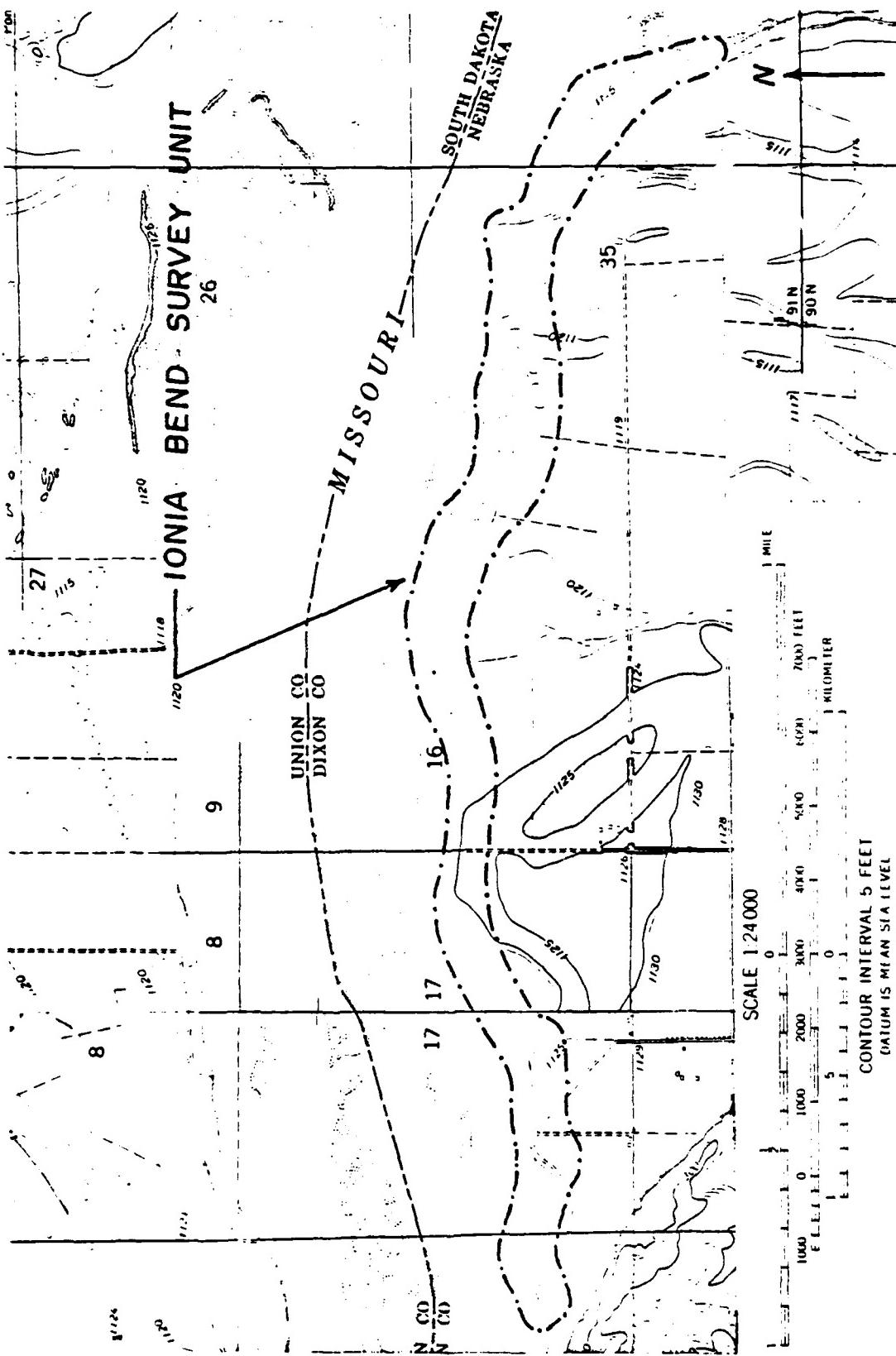


Figure 4. Ionia Bend Survey Unit, Dixon County, Nebraska; all lands within indicated unit boundary surveyed. (Adapted from U.S.G.S. 7.5 min. topographic maps; Burbank, Quadrangle, Nebraska and Elk Point Quadrangle, South Dakota, Nebraska and Iowa)

DISCUSSION

Intensive survey investigations within each defined study unit -- Sunshine Bottom, Goat Island and Ionia Bend -- failed to reveal the presence of significant archeological remains. Specific attention was focused on those areas reported to have been used as boat landings during the late 19th and early 20th centuries; no remains of these historic and potentially significant activities were discovered. Scattered evidence of recent activity was noted within the study units, but in each case these remains were judged to be recent in origin (within the last 50 years) and are not considered significant in the present context. In sum the relatively recent alluvial deposits within each study unit did not yield evidence of either early historic or prehistoric occupation/use of the floodplain area. The possibility that subsurface remains may exist within one or more of these study units cannot of course be discounted, though at present no evidence for such deposits are known in the immediate area.

Evaluation of Probable Impacts

Background research on, and field investigations of, the Sunshine Bottom, Goat Island and Ionia Bend areas have failed to reveal evidence of significant cultural resources. Based

on our present effort and information available concerning the proposed bank stabilization project, construction and related activities within the study units will not affect, directly or indirectly, any known resources.

Recommendations

Presuming no changes in basic project design, no further cultural resource investigations are recommended at the present time, nor is it felt that additional field evaluation will be required prior to actual construction activities. As noted above, the possibility that construction or construction-related activities may disturb previously unknown cultural deposits does exist. Should such deposits be exposed during the course of bank stabilization activity, a professional archeologist should be immediately consulted and all work halted.

Finally, it should be noted that information contained in this report is relevant to only those areas included within the defined study units. Project activities (road construction, excavation of borrow areas, etc.) outside survey units have not been considered.

SUMMARY AND CONCLUSIONS

Archeological investigations within three proposed bank stabilization areas -- Sunshine Bottom, Goat Island and Ionia

Bend -- were carried out in April 1978 under an agreement between the U.S. Army Corps of Engineers (Omaha District) and the University of Nebraska-Lincoln. The primary objectives of the study were the identification and evaluation of cultural resources within the defined study areas, as well as the assessment of probable impact to identified resources which might result from planned bank stabilization activities.

The results of this work are summarized below:

1. A review of past archeological investigations within each of the defined units reveals that no prehistoric resources were known within the defined project boundaries, though investigations in the general area have documented human use of northeastern Nebraska for the past several millennia.
2. Our review further revealed evidence of at least two boat landings (Stewart's Ferry and Anderson's Landing) within the Sunshine Bottom survey unit. Both landings were in use during the late 19th and early 20th centuries.
3. Intensive survey investigations within each of the defined study units failed to reveal the presence of significant cultural resources (prehistoric or historic), though much evidence of recent use of these areas was noted.
4. Based on available background information, coordination with professionals knowledgeable in the archeology of the area and an intensive field survey investigation proposed construction and related activities will not affect cultural resources within defined project areas.
5. No further cultural resource investigations are recommended. The possibility that construction or related activities may uncover unknown and previously undisturbed cultural deposits is recognized. Should bank stabilization measures reveal previously unknown and buried resources, all construction work should be halted to permit inspection of the area by a professional archeologist.

REFERENCES CITED

Holen, Steven R.

1975 Cemeteries and Grave Sites, NPPD Pumped Power Storage Project. in NPPD Pumped Power Project: Data Pertinent to Historic and Prehistoric Cultural Resources. MS submitted to the Nebraska Public Power District, Columbus, Nebraska. Pp. 96-108.

Murphy, David

1977 A Survey of Historic-Architectual Sites in the Sunshine Bottom Area of Boyd County, Nebraska. MS submitted to the Nebraska Public Power District, Columbus, Nebraska.

O'Shea, John

1975 Initial Historical Survey NPPD Pumped Power Storage Project, Boyd County, Nebraska in NPPD Pumped Power Project: Data Pertinent to Historic and Prehistoric Cultural Resources. MS submitted to the Nebraska Public Power District, Columbus, Nebraska Pp. 29-41.

Sigstad, John S. and Joanita Kant Sigstad (editors)

1975 Archaeological Field Notes of W.H. Over Research Bulletin Number 1. South Dakota State Archeologist, Department of Education and Cultural Affairs.

Teter, David

1975a Archaeological Survey of the Boyd County Pumped Storage Project, in NPPD Pumped Power Project: Data Pertinent to Historic and Prehistoric Cultural Resources. MS submitted to the Nebraska Public Power District, Columbus, Nebraska Pp. 42-95.

1975b Preliminary Report on the Archaeological Investigations at 25BD124, Boyd County, Nebraska, in NPPD Pumped Power Project: Data Pertinent to Historic and Prehistoric Cultural Resources. MS submitted to the Nebraska Public Power District, Columbus, Nebraska. Pp. 122-169.

APPENDIX A

Pertinent Correspondence

Missouri River Bank Stabilization Projects:
Sunshine Bottom, Goat Island, Ionia Bend

THE UNIVERSITY OF NEBRASKA-LINCOLN
LINCOLN, NEBRASKA 68588

DEPARTMENT OF ANTHROPOLOGY
DIVISION OF ARCHEOLOGICAL RESEARCH

April 19, 1978

Dr. Larry Zimmerman, Director
Archeology Laboratory
University of South Dakota
Vermillion, South Dakota 57069

Dear Dr. Zimmerman:

The Omaha District, Corps of Engineers has contracted with the University of Nebraska (Division of Archeological Research) to conduct a Cultural Resources Reconnaissance of three Missouri River Bank Stabilization Projects. One of these project areas, the Goat Island area, is located in Yankton County, South Dakota. The accompanying map illustrates the specific area which lies between Missouri River mile markers 795 and 798; the actual area to be surveyed is 300 feet in width.

We would appreciate it if you could check your organization's site records, laboratory data and/or manuscript file for any information relevant to known archeological or historical sites in the Goat Island area and the immediate vicinity. Relevant data could be supplied in the form of a list of site numbers, their geographical location and cultural affiliation and significance. Copies of site forms would also be helpful. We will be happy to pay for copying or reasonable preparation "fees".

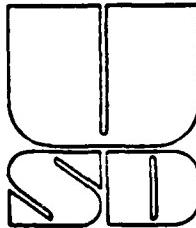
For your information the survey is scheduled to take place on April 21, 22 and 23. Thank you, in advance, for your assistance.

Sincerely,

Carl R. Falk, Director
Archaeology Research Div.

dm
encl.

cc: Mr. John J. Little, Vermillion, So. Dakota
Mr. Robert Alex, Ft. Meade, South Dakota



April 26, 1978

Carl Falk, Director
Archaeology Research Division
Department of Anthropology
University of Nebraska
Lincoln, Nebraska 68588

Dear Carl:

I have examined your letter concerning the Goat Island area bank stabilization in Yankton County. No prehistoric sites have been reported from the survey area. As you know the river channel in the area has been changing considerably over the last hundred years and probably have obliterated most prehistoric materials. You should be aware, though, that last year a number of *Bison occidentalis* skulls and other body parts washed out just below Gavin's Point; you might "stumble" onto similar situations downstream.

Best wishes,

Larry J. Zimmerman, Director
University of South Dakota
Archaeology Laboratory
Department of Social Behavior

LJZ:meb

THE UNIVERSITY OF SOUTH DAKOTA • VERMILLION, SOUTH DAKOTA • 57069

ARCHAEOLOGICAL
RESEARCH CENTER
P.O. Box 152
Ft. Meade, SD 57741
Phone (605)347-3652



26 April

Carl Falk, Director
Archeological Research Div.
Department of Anthropology
University of Nebraska
Lincoln, NB 68588

Dear Mr. Falk:

We have examined the S.D. Site Inventory, the Smithsonian records for S.D. and the National Register records for the Goat Island area, Yankton County, South Dakota. No sites are presently located in that area, and as far as we can tell, no surveys have taken place.

We do not at present charge for records searching services, but beginning with the new fiscal year in July we will be charging a fee of \$10.00 per hour of staff time plus copying costs.

If I can be of any further assistance, please let me know.

Sincerely,

James K. Haug
James K. Haug
Staff Archaeologist

The Office of Cultural Preservation of the Department of Education and Cultural Affairs coordinates South Dakota's archaeological research, museums, historical preservation and historical resources in a program designed to preserve our natural and cultural heritage.

HISTORICAL
PRESERVATION
CENTER

University of South Dakota
Vermillion, S.D. 57069
Phone (605) 677 5314



Department of
Education and Cultural Affairs

May 1, 1978

Dr. Carl R. Falk, Director
Archaeological Research Division
Department of Anthropology
University of Nebraska
Lincoln, Nebraska 68588

Dear Dr. Falk:

Our files and listings for cultural resources in the area of the bank stabilization project called "Goat Island Area" contain no specific references to sites of any antiquity. However, I was able to find the enclosed map of that area made from data taken in the mid-1890's. On the last sheet of the enclosure I have plotted the location of the proposed project as accurately as I could on the older map to show the shoreline changes that have taken place since that time. This information might be useful to you in two ways. One, areas that were in the river or sandbars 85 years ago would not be likely to contain important cultural information. Two, the mouth of the James River is shown to have been within your project area instead of miles upstream as it is now. This may be significant as the Lewis and Clark Expedition met with a group of Dakotas at the location of the confluence of the James and Missouri Rivers in, I believe, late August, 1804.

I sincerely hope this will be of some use to your survey. We are very much interested in the results of your survey and hope you feel free to contact us at any time if we can be of further service.

Cordially,

Steven D. Ruple

Steven D. Ruple, Archaeologist
Survey and Environmental Review

MAP OF THE MISSOURI RIVER

From its mouth to Three Forks, Montana,

IN EIGHTY-FOUR SHEETS

Scale, one inch to one mile $\frac{1}{63,360}$

AND

NINE INDEX SHEETS

Scale, one inch to eight miles $\frac{1}{56,320}$.

Published in 1892-1895

By the

MISSOURI RIVER COMMISSION

Created by Act of Congress July 5, 1884.

COMMISSIONERS:

A. MACKENZIE.
LT. COL. OF ENGRS., U.S.A.
TO JULY 11, 1885.

W. J. BROATCH.
TO MARCH 3, 1891.

C. R. SUTER.
COL. OF ENGRS., U.S.A.
PRESIDENT.

G. C. BROADHEAD.
CIVIL ENGINEER.

C. J. ALLEN,
MAJ. OF ENGRS., U.S.A.,
FROM JAN. 30, 1884.

W. R. KING.
LT. COL. OF ENGRS., U.S.A.,
FROM JULY 11, 1895.

O. H. ERNST.
MAJ. OF ENGRS., U.S.A.,
TO JAN. 8, 1884.

R. S. BERLIN.
FROM MARCH 13, 1881.

SECRETARIES IN CHARGE OF SURVEYS:

W. L. FISK.
1ST LIEUT. OF ENGRS., U.S.A.,
TO AUG. 29, 1885.

J. C. SANFORD,
CAPT. OF ENGRS., U.S.A.,
MARCH 31, 1880, TO JUNE 9, 1894, & FR. SEPT. 27, 1894.

T. A. BINGHAM,
CAPT. OF ENGRS., U.S.A.,
FROM AUG. 29, 1885, TO JAN. 8, 1890.

J. F. MCINDOE,
AD. 2ND LIEUT. OF ENGRS., U.S.A.,
FROM JUNE 20 TO SEPT. 27, 1894.

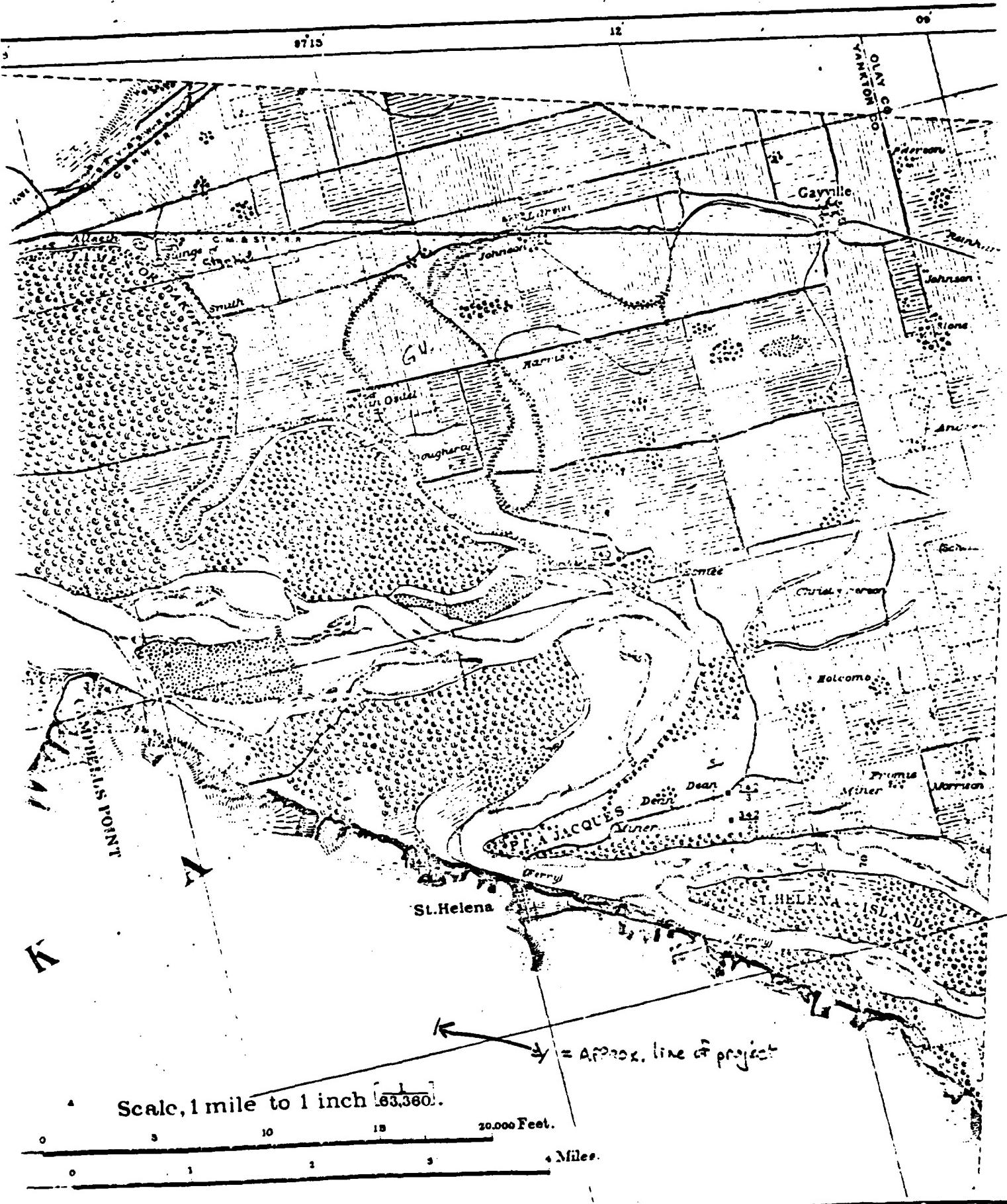
The Topographical and Hydrographical surveys were made as follows:

LOCALITY	DATE OF SURVEY	ACRES
TREES FORKS TO FORT BENTON:		
Three Forks to Stubbs Ferry	July to Sept., 1889.	83-81
Stubbs Ferry to Sun River	April & May, 1890.	81-77
Sun River to Fort Benton	Nov. & Dec., 1890.	77-76
FORT BENTON TO SIOUX CITY:		
Fort Benton to Coal Banks	May to Sept., 1889.	75-74
Coal Banks to Wolf Point	June to Oct., 1890.	74-63
Wolf Point to Grinnells Ldg.	June to Oct., 1891.	63-51
Grinnells Ldg. to Cannon Ball River	June to Nov., 1891.	57-48
Cannon Ball River to 20 miles above Chamberlain	Sept. to Nov., 1892.	48-38
20 miles above Chamberlain to Chamberlain	July, 1893.	27
Chamberlain to Big Sioux River	Sept. to Nov., 1893.	37-28
BIG SIOUX RIVER TO MOUTH: <i>(Shore line and topography near shore)</i>		
Big Sioux River to Florence	Oct. & Nov., 1890.	27-23
Florence to Omaha	Dec., 1889, & Jan., 1890.	23
Omaha to Jones Point	Nov., 1890.	23-22
Jones Point to St. Joseph	Oct. to Dec., 1891.	22-18
St. Joseph to Beverly Junction	Nov., 1891.	17-15
Beverly Junction to Kaw Bend	Dec., 1890, & Jan., 1891.	15-14
Kaw Bend to Randolph	Oct. & Nov., 1890.	14
Randolph to Wellington	June, 1890.	14-13
Wellington to 3 miles above Boonville	Oct. to Dec., 1890.	13-9
3 miles above Boonville to Franklin Island	June, 1890.	9-8
Franklin Island to Osage River	Oct. to Dec., 1890.	8-6
Osage River to Klusuevers Ldg.	Nov., 1890.	6-4
Klusuevers Ldg. to Pattons Point	June, 1890.	4
Pattons Point to mouth	Nov. & Dec., 1890.	4-1
<i>(Topography back from shore)</i>		
Big Sioux River to Weston	1879.	27-16
Weston to Boonville	Sept. to Dec., 1878.	15-9
Boonville to mouth	Apr. & May, 1878.	8-1
Under the MISSISSIPPI RIVER COMMISSION:		
Mississippi River above Alton	Aug., 1890.	1
" " below "	Nov. & Dec., 1890.	1

The stage of water is shown on each sheet in tenths of the interval between standard low and standard high water.

CONVENTIONAL SIGNS.

Triangulation Station (secondary)	▲	Bench Mark
Saw Mill	*	Church
Cemetery	●	Section Corner
Road	—	Railway
Fence	County & Resn. Line
Levee	—	State Line
Bench	~	Dike
Orchard	■■■■■	Cultivated
Forest (deciduous)	•••••	Sand Bar
Forest (evergreen)	•••••	Grass
Bushes	•••••	Lake & Marsh
Willows	•••••	Bluff's



APPENDIX B

Photographic Record

Missouri River Bank Stabilization Projects:
Sunshine Bottom, Goat Island, Ionia Bend

UNIVERSITY OF NEBRASKA LINCOLN

ARCHAEOLOGICAL RESEARCH

PHOTO RECORD

Camera type Minolta 35mm

Field

Field

Film type B & W 35mmRoll No. 1Catalog No. none

Date	Subject	Exposure	View	Day/Ex
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view across river from

4-21-78 Anderson's Landing, Nebr. north Angus 1

view across river from

4-21-78 Anderson's Landing, Nebr. east Angus 2

view of Greenwood Landing,

S. Dak, taken from Stewart's

4-21-78 Ferry, Nebraska north Angus 3

view across river from

4-21-78 Stewart's Ferry Nebr. west Angus 4

sandbar in trees just

4-21-78 east of Stewart's Ferry east Angus 5

on Missouri River bank

4-21-78 at east end of project west Angus 8

area in Sunshine Bottom

view of dump (?) with

4-21-78 material eroding from north Angus 9

cutbank

Abandoned shack at west

4-21-78 border of project area north Angus 10

Interior of shack

4-21-78 Abandoned shack south Angus 12